



Airborne pollen concentrations and the incidence of allergic asthma and rhinoconjunctivitis in northern Italy from 1992 to 2003

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Abstract:

BACKGROUND: Aeroallergens and the environment play an important role in the pathogenesis of respiratory allergies. In a 12-year study carried out in Northern Italy (geographic area of Parma), the effects of airborne pollen and meteorological conditions on the incidence of allergic asthma and rhinoconjunctivitis were evaluated. **PATIENTS and METHODS:** Among 9,060 subjects examined for respiratory pathologies at our Allergy Unit, Parma Hospital, Italy, from 1992 to 2003, only 1,054 positive to only one type of inhalant allergen in the skin prick test were studied, to avoid bias of cross-reactivity. Allergy and clinical aspects were compared with the duration of the pollination period, and peaks and total concentrations of airborne pollen. **RESULTS:** Our data showed a significantly growing trend of allergy to mites, pets and birch pollen and a significant increase in asthma, and a significantly decreasing trend of positive reactions to grasses and a decrease in rhinoconjunctivitis. At the same time, there was a significant decrease in total pollen counts, concentration peaks and pollination period of grasses. A significant increase was only observed in ragweed and ash-olive total and peak pollen concentrations. **CONCLUSIONS:** Significant correlations between the increasing incidence in asthma and allergy to mites, pets and birch pollen are shown. The decrease in the total pollen count and concentration peaks of grass pollen was correlated to the decreasing trend of rhinoconjunctivitis. The trend of increasing concentrations of ash-olive and ragweed pollen was not accompanied by an increase in the related allergy.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution

Air Pollution: Allergens

Geographic Feature:

resource focuses on specific type of geography

Urban

Geographic Location:

Climate Change and Human Health Literature Portal

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : Italy

Health Impact: ☐

specification of health effect or disease related to climate change exposure

Respiratory Effect

Respiratory Effect: Asthma, Upper Respiratory Allergy

Resource Type: ☐

format or standard characteristic of resource

Research Article

Timescale: ☐

time period studied

Time Scale Unspecified